DOCUMENT RESUME

ED 472 929 CG 032 189

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TITLE	African and Arab American Achievement Motivation: Effects of Minority Membership.
PUB DATE	2002-08-00
NOTE	41p.; Paper presented at the Annual Conference of the American Psychological Association (110th, Chicago, IL, August 22-25, 2002).
PUB TYPE	Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE	EDRS Price MF01/PC02 Plus Postage.
DESCRIPTORS	Academic Achievement; *Achievement Need; *Adolescents; Arabs; Attribution Theory; Black Students; *Ethnicity; High School Students; High Schools; Learning Motivation; North Americans; *Predictor Variables; *Racial Identification; Self Esteem; White Students

ABSTRACT

The association between ethnic group identification, attributional style, and the use of self-protective attributions with respect to self-esteem, academic achievement and motivation among ethnically diverse adolescents was examined. Participants in the study included 422 African American, 90 Arab American, and 194 European American high school students. Results of this study indicated that ethnic minority students with a strong ethnic identity were more motivated to achieve academically and had a better school self-concept than students with a depreciated ethnic identity. An inverse relationship was found between academic achievement and variables measuring school self-concept and academic motivation among African American and Arab American students. In addition prejudice was frequently endorsed as a reason for failure among the ethnic minority participants. These findings suggest that some criteria, other than academic grades, are used for self-evaluation by ethnic minority adolescents. (Contains 90 references.) (Author)

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ED 472 929

AFRICAN AND ARAB AMERICAN ACHIEVEMENT MOTIVATION: EFFECTS OF MINORITY MEMBERSHIP

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Presented at the 110th Annual Convention of the American Psychological Association
Chicago, Illinois, August 22-25, 2002
Division 45: Society fo the Psychological Study of Ethnic Minority Issues
Poster Session1053: Culture and Community August 22, 2002

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Abstract

The association between ethnic group identification, attributional style, and the use of self-protective attributions with respect to self-esteem, academic achievement and motivation among ethnically diverse adolescents was examined. Participants in the study included 422 African American, 90 Arab American, and 194 European American high school students. Results of this study indicated that ethnic minority students with a strong ethnic identity were more motivated to achieve academically and had a better school self-concept than students with a depreciated ethnic identity. An inverse relationship was found between academic achievement and variables measuring school self-concept and academic motivation among African American and Arab American students. In addition prejudice was frequently endorsed as a reason for failure among the ethnic minority participants. These findings suggest that some criteria, other than academic grades, are used for self-evaluation by ethnic minority adolescents.

AFRICAN AND ARAB AMERICAN ACHIEVEMENT MOTIVATION: EFFECTS OF MINORITY MEMBERSHIP

Adolescence is a time during which an individual integrates various identifications, or roles, into a whole identity (Erikson, 1968). The personality, or ego identity, is formed through the consolidation of self-attributes and group affiliations. Ethnic and social groups become an avenue for the adolescent to try out roles while promoting a sense of self-worth and belonging. While the adolescent experiments with differing roles, thereby forming both a sense of belonging in society and an ego identity, an in-group, out-group differentiation emerges. This functions to help decrease the loss of self-esteem and identity confusion (Erikson, 1950; Marmarosh & Corazzini, 1997). The ingroup, outgroup comparison is part of the cognitive, neurological, and psychological changes that occur during adolescence affording the adolescent a greater capacity to use abstract reasoning to solve problems and to make sense of his or her place in the world (Kaplan, 1988; Miller, 1983). An increased ability to use abstract thought also heightens the adolescent's awareness of inequities between individuals and between groups of individuals. Such inequities become particularly palpable when the adolescent is a member of an ethnic or racial minority (Brody, 1975, Crocker & Major, 1989).

Ethnically identified adolescents can use their sense of social inequity to understand academic and social success or failure in ways that enhance self-esteem. Using ethnic identity as a causal explanation for failure can preserve self-esteem, while undermining accurately self-evaluation. A decreased ability to self-evaluate prevents the adolescent from making necessary changes that could result in an increased potential for success in a larger social milieu. Group theory and cross-cultural research suggest that ethnic identification during adolescence is vital to the formation of a belief in the ability to succeed in present and future endeavors (Aboud, 1977, 1987; Bempechat & Drago, 1999; Fordham & Ogbu, 1986; Ogbu, 1978, 1987; McInerney, Roche, McInerney & Marsh, 1997). Studies of high school minority groups found a positive correlation between high self-esteem, minority group identification, externalizing attributes for failure, and low academic achievement (Birenbaum & Kraemer, 1995; Cialdini & Richardson, 1980; Dietz-Uhler & Murrell, 1998; Hillman, Wood, & Sawilosky, 1994). These and other studies suggest that while ethnic group identification may maintain self-esteem it can also create a sense of futility regarding future success resulting in poor academic motivation and performance (Steele, 1997). Numerous studies suggest that a decrease in ethnic identity is necessary to adopt the majority culture's academic standards and achieve scholastically (Arroyo & Zigler, 1995; Fordham, 1988; Fordham & Ogbu, 1986; Steele,

1997). However, other studies suggest that academic achievement is valued among some ethnic groups as a way to increase future success and maintain pride in their ethnic heritage (Stalikas & Gavaki, 1995).

Diverse findings regarding ethnic identification and academic achievement are in keeping with Maehr's personal investment model of motivation (Maehr, 1984; Maehr & Braskamp, 1986; McInerney & Sinclair, 1991,1992). The personal investment model postulates that students hold multiple goals such as a wish to be included as part of a group, a desire to excel academically, a longing to please parents, a need to preserve cultural identity, a wish to be important and recognized for their talents, a desire to influence their future through excelling in their current performance, and a fervor for learning. Each goal influences the student's level of motivation toward other goals and success in obtaining that goal is dependent on self-evaluation and the ability to appraise information received regarding performance leading to the goal (Urdan & Maehr, 1995).

Maehr's personal investment model consists of seven dimensions described as interacting goals that influence achievement motivation (Maehr & Braskamp, 1986; McInerney & Sinclair, 1991, 1992). Goals believed to be important to achievement include; general motivation, mastery, performance, social, sense of purpose, sense of self including a sense of competence and self-reliance, and school self-concept (McInerney, 1995; McInerney et al., 1997). General motivation pertains to an understanding of how motivation is related to task performance and successful completion of goals in all aspects of life. The remaining dimensions are specific to academic achievement. For example, mastery goals are self-directed task-oriented goals in which striving for personal academic excellence is emphasized. Performance goals are similar to extrinsic goals in that the emphasis is on receiving recognition, token rewards for achievement, and leadership needs rather than feeling rewarded for the achievement itself. Social goals consist of motives toward affiliation with peers, family, and social concern. A sense of purpose subsumes future orientation goals and a need for competence on present tasks to obtain remote goals such as a good job or college entrance. A sense of competence encompasses a general belief of competence, school competence and self-reliance. A component of self-reliance is a preference for independent functioning on school related tasks. In this model, self-concept is specific to school self-concept and includes an assessment of personal ability to perform tasks and integrate information necessary to succeed within a school setting. A comparison of perceptions of the ability of the self to academic peers is also needed to assess school self-concept.

A need to self-protect can greatly influence the ability to appraise information regarding performance. Individuals who identify with a particular group have been found to devalue the out-group in order to protect self-esteem. The in-group/out-group, percept allows deployment of defensive strategies that externalize negative feedback to maintain positive self-evaluation and high self-esteem. Strong group identification allows for a disavowal of the ideals and opinions of those not belonging to one's own ethnic group, thereby avoiding emotional injury and bolstering self-esteem (Volkan, 1988). Academic achievement and achievement motivation may be defined by the individual through a set of complex interacting goals that reflect cultural, ethnic, family and personal values.

The complexity of the relationship between ethnic identification and academic achievement may be clarified by using constructs related to attributional and goal theories. According to attribution theory, perceptions of experiences influence later achievement motivation. For example, attributional style was found to mediate the relationship between self-esteem and academic performance in African American adolescents (Belgrave, Johnson, & Carey; 1985). Hillman, Wood, and Sawilowsky (1992, 1994) found more external attributions and higher than average global self-esteem among low achieving African American adolescents. Use of ethnic identification as a self-protective mechanism by adopting an externalized attributional style can lead to decreased effort and continued failures. According to attribution theory, failure ascribed to stable and uncontrollable factors can lead to a sense of helplessness and a loss of motivation (Abramson, Seligman & Teasdale, 1978).

Attribution theory research concerning academic success and failure has shown mixed results concerning ethnic/racial minority students. A few studies have reported that African American students attribute academic success and failure to external causes (Friend & Neale, 1972; Murray & Mednick, 1975). Other studies have found no difference in causal attribution for success and failure between African American and other ethnic/racial groups (Graham & Long, 1986; Willig, Harnisch, Hill & Maehr, 1983). In a study of 330 White, Black, Hispanic and Asian 11th and 12th grade students, Rotheram-Borus (1990) found no differences in grade point average between ethnic groups suggesting personal identity and attributions do not differ across ethnic/racial lines.

Birenbaum and Kraemer (1995) found that Arab students frequently endorsed ability attributions for success in mathematics. Ability endorsement for success suggests an internal attributional style. Failure attributes were less well defined for Arab students as compared to Jewish students suggesting a possible ethnic difference in causal attributions for failure

between these two groups. Success and achievement are important for Arabs with respect to cultural norms of honor and shame. In the Arab culture, failure brings shame to both student and family, creating a greater need to externalize failure attributions (Birenbaum & Kraemer, 1995). Externalization of failure attributes has been widely recognized as significant in the maintenance of self-esteem. The possible deleterious effects of externalization on school motivation and self-improvement have just recently begun to be recognized and investigated.

With increased ethnic diversity in the United States, ethnic identity becomes an increasingly important construct in understanding identity formation and achievement orientation (McInerney, Hinkley, Dowson, & Van Etten, 1998; Phinney, 1992). It is well documented that academic achievement in high school is highly predictive of future academic achievement and socioeconomic status in adulthood. In addition, school motivation and task involvement has demonstrated predictive power regarding academic achievement depending on the social and educational identification of the individual (Arroyo & Zigler, 1995; McInerney et al., 1998; Wentzel, 1989, 1993). Understanding the relationship between group identification and academic motivation is important as group identification fosters adoption of group sanctioned goals and performance standards. In some instances these group standards and goals may differ from those needed for adaptation into the larger society.

The purpose of this study was to ascertain the degree of interdependence between ethnic identity, achievement orientation, school motivation, and specific self-protective characteristics to provide much needed information regarding individual characteristics of ethnic minority students. The first goal was to determine if academic achievement could be predicted from attributional style, school motivation, ethnicity, and strength of ethnic identification. The second goal was to investigate differences in academic achievement, school motivation, and self-esteem relative to the strength of ethnic identification, attributional style, and the use of self protective attributions among ethnically diverse high school students. Identification of specific characteristics and constructs within and between ethnic groups can be used to individualize academic programs and therapeutic practices resulting in more effective interventions (Steele, 1997; Tharp, 1991).

It was hypothesized that attributional style, self-protective attributions, ethnic identification, school motivation, and ethnicity could be used to predict academic achievement. Furthermore, it was hypothesized that there would be differences in school motivation between Arab American, African American, and European American students with high and low ethnic identity. Performance and social goals were expected to be used more often by ethnic minority

students with high ethnic identity. Based on achievement motivation and ethnicity research it was anticipated that African American students with low ethnic identity would have a greater mastery orientation than African American students with high ethnic identity. In contrast highly ethnically identified Arab American students were expected to use mastery goals more frequently. A higher degree of self-reliance, general motivation, and positive school self-concept were anticipated for students with low ethnic identity. In addition, having a sense of purpose that allows the individual to understand how their current functioning will affect their future endeavors was anticipated to be higher for students reporting a diminished ethnic identity. The expectation of a decrease in specific motivation variables was based on research and literature indicating that independent achievement and motivation toward academic success were associated with decreased ethnic group identification. In addition, the relationship between use of self-protective attributions and ethnicity was examined.

Method

Participants

High school students from three school districts in a large metropolitan area participated in this study. Each school had a distinct ethnic/racial mix with overlapping socioeconomic backgrounds ranging from low-middle class to upper-middle class creating a comprehensive population. For statistical purposes, participants were grouped by self-reported ethnic/racial background. The total distribution of surveys included 422 (59.8%) African American, 90 (12.7%) Arab American and 194 (27.5%) European American students. Individuals reporting biracial, Native American, or no ethnicity were excluded from inferential analysis (n=96). An additional 81 surveys were excluded due to missing or incomplete data resulting in total of 705 participants. Of the participants included in the inferential analyses 385 (54.6%) were females and 320 (45.4%) were males.

Instruments

Participants completed the Multiethnic Identity Measure (Phinney, 1992), the Protective Styles Questionnaire-Revised (Hillman, Wood & Sawilowsky, 1998), the Rosenberg Self-esteem Scale (Rosenberg, 1965, 1989), Inventory of School Motivation Revised (McInerney et al.; 1997), Attribution Styles Questionnaire (Peterson, Semmel, von Baeyer, Abramson, Metalsky, & Seligman, 1982), and a demographic survey.

Multigroup Ethnic Identity Measure (MEIM). This twelve-item scale consists of two factors. The first factor, ethnic identity achievement, is a cognitive and developmental component pertaining to the resolution of identity issues. The second factor is an affective

component consisting of a sense of affirmation, belonging and commitment. The affective component or affirmation, as assessed by the MEIM, refers to feeling good about one's ethnic group membership (Phinney, 1992). When the cognitive developmental component is considered concomitantly with the affective component the individual's identity achievement in relation to group membership and overall identity formation is assessed (Erickson, 1968; Phinney, 1992). The MEIM is a 4-point scale with low scores indicating diminished ethnic identity and higher scores representing a strong ethnic identity. Once overall scores were calculated by obtaining an average of scale items, participants were divided into two groups using a median split. Scores in the top half represented the high ethnic identity group, with lower scores representing low ethnic identity. Reliability and validity of the MEIM have been reported in numerous prior studies (McNeil, Kee, and Zvolensky, 1999; Phinney, 1992; Roberts, Phinney, Massee, Chen, Roberts, & Romero, 1999).

Protective Styles Questionnaire Revised (PSQR). Based on Crocker and Major's (1989) theoretical stance regarding the self-protective properties of group identification this instrument was designed to measure self-protective attributions along three dimensions (Hillman, Wood, & Sawilowsky, 1998). Mechanisms considered useful for preserving self-esteem through group identification are in-group and out-group comparisons. Characteristics not enjoyed by a group are devalued while characteristics the group displays are overvalued. Feedback from out-group members is devalued by attributing the information to prejudice rather than an accurate assessment of the individual or group performance. The PSQR presents the participant with six situations that describe a negative event that might occur within the context of a work or interpersonal relationship. To respond a selection is made from three possible causal explanations of the situation. Response set "A" (in group comparison) uses group identification to externalize of the cause of the event through ingroup comparison. "B" responses (devaluing performance), uses devaluing the goal when faced with poor performance as a defensive strategy. "C" responses (prejudice) are more overt causal explanations believed to be due to race or ethnicity. Scores are derived from a four-point ordinal scale of strongly disagree, disagree, agree, and strongly agree with possible scores ranging from 6 to 24. Interpretation of each scale is described separately.

In group common fate. Assessment of the belief that occurrences of positive or negative events result from group membership. Lower scores suggest that group membership is not used as an explanation for event outcomes.

Devaluing and Valuing. Identification with a group resulting in devaluing the importance

of an event or action because the event or action is not deemed important to the group. Higher scores suggest strong agreement that an action or event be unimportant to the individual because it is believed to be unimportant to the group.

Prejudice. The prejudice scale assesses the belief that the outcome of an event is directly related to the individual's race or ethnicity. Higher scores indicate strong agreement that the outcome of an event was greatly influenced by membership in a particular racial or ethnic group.

The dimensionality of the 18 items making up the Protective Styles Questionnaire-Revised was analyzed using a principal components factor analysis with a Varimax rotation. After item removal a four-factor solution explaining 59.09% of the total variance emerged. Item analyses were conducted on the remaining items. All item-total scale correlations for ingroup comparison were greater than .40 with corrected item-total correlations ranging from .50 to .73. Item-total correlations ranging from .50 to .78 were obtained for prejudice. Valuing/devaluing item-total correlations were low ranging from .25 to .83. Due to split factor loadings, multicollinearity and low item-total correlations the valuing/devaluing scale was omitted from regression analysis. Content analysis of items on this scale revealed a split in content along the lines of peer relations and authority relations. The valuing/devaluing scale was retained in multiple analysis of variance procedures to assess the utility of considering the relationship of this variable with ethnicity and ethnic identity.

Cronbach's alpha coefficients were used to obtain internal consistency estimates of reliability of the PSQ-R for the three ethnic groups. Alpha coefficients of .85, .87, and .90 were obtained for the African American, Arab American, and European American groups respectively indicating a satisfactory reliability across the three ethnic groups. In addition, coefficient alphas ranging from .70 to .83 for the three scales indicate good reliability. Reliability estimates are likely overestimates of the population coefficient alpha because the same sample was used to conduct the item analysis and to assess the coefficient alphas. Based on the results of these analyses all PSQ-R variables were retained for use in hypothesis testing where multicollinearity was not a major concern.

Rosenberg Self-esteem Scale. The Rosenberg Self-esteem Scale (Rosenberg, 1965) was originally developed to gauge the adaptation of adolescents and the predictive power of self-esteem. Since its development, the RSES has enjoyed the status of being the most frequently used measure of adolescent self-esteem (Bagley, Bolitho, & Bertrand, 1997). The RSES uses a multidimensional conceptualization of a global construct of self-esteem. This

construct of self-esteem comes from the definition set forth by Rosenberg (1965) who stated, "By self-esteem we refer to the evaluation that an individual makes and customarily maintains with regard to himself; it expresses an attitude of approval or disapproval" (p. 5). Ten items are rated using a 4-point Likert-type scale to assess self-esteem. The scale consists of five negatively and five positively worded items with possible responses ranging from strongly disagree to strongly agree. Negatively worded items are reverse scored in concurrence with Crandall scoring (Rosenberg, 1965). Scores are totaled and averaged resulting in a single mean, representing global self-esteem. Reliability and validity of the RSES have been reported in numerous previous studies (Bagley et al., 1997; Baker & Gallant, 1985; Kaplan & Pokorney, 1969, 1975; Roberts et al., 1999; Rosenberg, 1986; Silber & Tipett, 1965).

Inventory of School Motivation Revised. The Inventory of School Motivation-revised (ISMR) is a 114-item instrument designed to measure achievement motivation in culturally diverse groups (McInerney & Sinclair, 1991). Items on the ISMR are written with specific goal orientations that relate to behavioral goals, general motivation and an overall sense of self (McInerney et al.; 1997,McInerney, Yeung, & McInerney, 2000). Three main factors of the ISMR are mastery, performance and social goals. The remaining subscales consist of items designed to measure a student's self-reliance, general motivation, sense of purpose, and school self-concept. Items are rated on a 5-point Likert scale ranging from 1 for strongly disagree to 5 for strongly agree. Prior to scoring, negatively worded items are reverse scored to reflect a positive response. Means for separate subscales are obtained to provide a score that reflects the original rating scale and allows comparisons among the subscales. Scores on subscales could range from 1 to 5, with higher scores indicating greater agreement.

Item analyses were conducted to assess internal consistency estimates and construct validity of ISMR variable scales. Alpha coefficients and scale correlation matrixes were used to assess scale reliability and item internal consistency. A single scale score was obtained for each of the seven scales of the ISMR. The seven motivation scales assessed were general motivation, mastery, performance, self-concept, self-reliance, sense of purpose, and social. Item-total correlations were obtained for each of the seven scales by correlating individual scale items with its own total scale score. In addition, scale items were correlated with the other motivational scales to assess convergent and discriminant validity of the scales (Green, Salkind, & Akey, 2000). Items with item-total correlations of .40 or higher were retained. Items with item-total correlations of less than .40 and items with high loadings ($r > .80$) on alternate scales of the ISMR were eliminated (Hair et al., 1995). Based on these analyses all items were

retained for four of the seven ISMR scales: general motivation, performance, self-concept, and sense of purpose. Two items with item-total correlations less than or equal to .40 were removed from the mastery scale. Similarly, four items were removed from the self-reliance scale and three items were removed from the social scale due to item-total correlations less than .40, or negative item to total-scale correlations.

Coefficient alphas ranged from .70 to .95, indicating good reliability for the seven ISMR scales. Reliability estimates are likely to be an overestimation of the population coefficient alpha because the same sample was used to conduct the item analysis and to assess the coefficient alphas. Reliability and validity of the ISMR have also been assessed in numerous previous studies using ethnically diverse populations (McInerney, 1995; McInerney & Sinclair, 1991; McInerney et al., 1997; McInerney, Yeung, & McInerney, 2000).

Attributional Styles Questionnaire (ASQ). Individual differences in the use of attributions associated with good and bad events are assessed using 12 different hypothetical situations. Scores are related to an individual's style of attributing causes for good and bad events along three dimensions of internality, stability and globality based on the reformulated learned helplessness model of Abramson, Seligman and Teasdale (1978). Three attributional dimensions associated with each hypothetical event are scored in the direction of increasing internality, stability, and globality for positive and negative events. Summing items along an achievement-affiliation dimension creates composite scores to obtain six subscales. The six subscales are: (a) Internal Composite Positive, (b) Internal Composite Negative, (c) Stable Composite Positive, (d) Stable Composite Negative, (e) Global Composite Positive, and (f) Global Composite Negative. Reliability and validity have been reported in numerous prior studies (Arntz, Gerlsma & Albersnagel, 1985; Hillman et al.,1994; Peterson, Bettes, & Seligman, 1985; Peterson & Seligman, 1984; Peterson, Semmel, von Baeyer, Abramson, Metalsky & Seligman, 1982).

Demographic Survey. A short demographic survey was developed to obtain information regarding family socioeconomic status, sex, age, grade in school, ethnicity, birth place, length of time in the United States, bilingual education, educational goals, occupational plans and current academic achievement. Parental educational levels and occupational types were obtained to determine family socioeconomic status based on the Hollingshead four factor index of social status (Hollingshead, 1975).

Academic achievement. Academic achievement was operationalized as a cumulative grade point average (GPA) based on self-reported grades. Students were asked to report the

letter grades they generally received. Participants selected grade ranges such as mostly A's, A-, B+, mostly B's etc., leading to a 12-point scale. An overall GPA was calculated by converting letter grades into a metric scale with scores ranging from 1 to 4, with 4 representing the highest GPA. Self-reported grades have been endorsed as a measure of current achievement rather than intellectual potential as well as one of the most stable predictors of scholastic achievement (Dornbush, Ritter, Leiderman, Roberts, & Fraleigh, 1987; Wentzel, 1991; Wright & Houck, 1995). A positive relationship between self-reported grades and student motivational activities such as getting assignments done on time, student effort toward task completion, and types of goals students set has been reported (Wentzel, 1989, 1993).

Procedures

Instruments were completed by students in their classrooms during normal class periods. Participating classes included mandatory social science and history classes. Dual language class rooms were used to survey Arab American students allowing for translation assistance when needed. Information letters and student assent forms, approved by Wayne State University Human Investigation Committee, were used to determine eligibility for participation.

Results

To control for school district and socioeconomic differences survey responses were compared across the three schools. Statistically significant differences were found for age level, academic achievement, ethnicity, immigrant status, living arrangements, family socioeconomic status, and number of siblings. When comparing students by ethnic group, statistically significant differences were obtained for academic achievement, born in the United States, and family socioeconomic status. Based on the results of these analyses socioeconomic status and academic achievement were used as covariates in multiple analysis of variance procedures.

The first of three hypotheses tested used a stepwise multiple linear regression analysis to determine if academic achievement could be predicted from attributional style, self-protective attributions, ethnic identification, school motivation, and ethnicity. A Pearson product moment correlation matrix was developed to determine the relationships between predictor and criterion variables. In addition, the relationships among the predictor variables were also investigated to ascertain if multicollinearity among variables was acting as suppressor. Correlations of .80 or higher were considered indicators of substantial collinearity (Hair, 1995).

Based on the results of the correlation matrix twelve predictor variables; ethnic identity

(r =.08, p=.034), prejudice (r= -.21, p<.001), mastery (r=.20, p<.001), sense of purpose (r=.28, p<.001), general motivation (r=.20, p<.001), self-concept (r=.43, p<.001), self-reliance (r=.23, p<.001), internal- positive (r=.21, p<.001), stable-positive (r=.18, p<.001), global positive (r= .19, p<.001), African American (r= -.16, p<.001), and European American (r=.17, p<.001) were significantly correlated with the criterion variable, academic achievement (composite GPA). These variables were used as predictor variables in the stepwise multiple linear regression analysis.

Five predictor variables (self-concept, African American, sense of purpose, global positive, and European American) entered the stepwise multiple linear regression equation, accounting for 23% of the variance in self-reported academic achievement. The associated F ratio of 46.97 was statistically significant at an alpha level of <.001 with 5 and 800 degrees of freedom indicating that the five predictor variables were explaining a statistically significant amount of the variance in the criterion variable.

The first predictor variable that entered the stepwise multiple linear regression equation was self-concept. This predictor variable explained 18% of the variance in self-reported academic achievement. The t-value of 10.03 obtained for this analysis was statistically significant at an alpha level of <.001, indicating the amount of variance in self-reported academic achievement accounted for by self-concept, as a measure of school motivation, was statistically significant. Being African American explained an additional 2% of the variance in self-reported academic achievement with a t-value of -2.57 (p=.011). A t-value of 3.46 obtained for sense of purpose was statistically significant at an alpha level of .001 explaining 1% of the variance in self-reported academic achievement. Global positive and European American each explained an addition 1% of the variance in academic achievement with significant t-scores of 2.37 (p=.018) and 2.29 (p=.022) respectively. The remaining predictor variables did not enter the stepwise multiple linear regression equation, indicating they were not statistically significant predictors of self-reported academic achievement. The statistically significant results on this analysis provide support to reject the null hypothesis.

The second hypothesis was tested using a 2 x 3 x 2 factorial multivariate analyses of covariance (MANCOVA) to determine if there were differences in subscales measuring school motivation (mastery, performance, social, sense of purpose, self-reliance, self-concept, and general motivation) by ethnic identity, ethnicity, and gender. Among the three groups, (African American, Arab American, and European American), European American students were used as a comparison group in these evaluations. Covariates were socioeconomic status and

academic achievement. The results of the MANCOVA provided evidence of statistically significant differences for the three main effects, ethnic identity F (7, 565) =2.05, p=.047; ethnicity, F (14, 1128) = 4.56, p<.001; and gender F (7, 565) = 5.35, p<.001. The two way interactions between ethnic identity and ethnicity, F (14, 1128) = 1.41, p=.142; ethnic identity and gender, F (7, 565) = .71, p=.666, and ethnicity and gender, F (14, 1128) = 1.34, p=.175 were not statistically significant. Three-way interactions among ethnic identity, ethnicity, and gender, F (14, 1128) = 1.75, p=.042 were statistically significant. The two covariates, family socioeconomic status F (7, 565) = 1.78, p<.001 and academic achievement F (7, 565) = 16.50, p<.001, were also statistically significant. To further explore the differences in the main effects and three-way interactions, one-way analyses of variance were carried out for each of the dependent variables. Table 1 presents the results of the one-way analysis of variance procedures.

Table 1

Analysis of Variance: School Motivation by Ethnic Identity, Ethnicity and Gender

Source of Variation	Sum of Squares	DF	Mean Squares	F Ratio	η^2	Sig of F
Ethnic Identity						
Mastery	657.59	1	657.59	7.00	.01	.008
General motivation	148.15		148.15	5.08	.03	.025
Performance	5113.86		5113.86	7.26	.01	.007
Social	687.00		687.00	8.05	.01	.005
Sense of Purpose	30.98		30.98	1.78	.18	.183
Self reliance	65.28		65.28	3.50	.06	.062
Self concept	82.25		82.25	2.06	.15	.152
Ethnicity						
Mastery	1241.51	2	620.75	6.60	.02	.001
General motivation	158.31		79.16	2.71	.01	.067
Performance	2545.29		1272.65	1.81	.01	.165
Social	1183.96		591.98	6.93	.02	.001
Sense of Purpose	155.33		77.66	4.46	.02	.012
Self reliance	176.73		88.36	4.74	.02	.009
Self concept	18.36		9.18	.23	< .01	.795
Gender						
Mastery	362.44	1	362.44	3.85	.01	.050
General motivation	.09		.09	.01	< .01	.956
Performance	6432.52		6432.52	9.13	.02	.003
Social	85.70		85.70	1.00	< .01	.317
Sense of Purpose	16.15		16.15	.93	< .01	.336
Self reliance	3.72		3.72	.20	< .01	.655
Self concept	331.37		331.37	8.28	.01	.004
Ethnic Identity x Ethnicity						
Mastery	23.15	2	11.58	.12	< .01	.884
General motivation	17.77		8.89	.31	< .01	.738
Performance	4176.05		2088.03	2.96	.01	.052
Social	176.41		88.21	1.03	< .01	.357
Sense of Purpose	7.75		3.87	.22	< .01	.801
Self reliance	7.10		3.55	.19	< .01	.827
Self concept	85.34		42.67	1.07	< .01	.345
Ethnic Identity x Gender						
Mastery	14.07	1	14.07	.15	< .01	.699
General motivation	3.05		3.05	.10	< .01	.747
Performance	1038.91		1038.91	1.48	< .01	.225
Social	135.11		135.1113.7	1.58	< .01	.209
Sense of Purpose	13.72		2	.79	< .01	.375
Self reliance	7.38		7.38	.40	< .01	.530
Self concept	26.79		26.79	.67	< .01	.414

Table continues

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Source of Variation	Sum of Squares	DF	Mean Squares	F Ratio	η^2	Sig of F
Ethnicity x Gender						
Mastery	141.48	2	70.74	.75	< .01	.472
General motivation	25.73		12.87	.44	< .01	.644
Performance	202.35		101.18	.14	< .01	.866
Social	469.90		234.95	2.75	.01	.065
Sense of Purpose	19.70		9.85	.57	< .01	.568
Self-reliance	28.21		14.10	.76	< .01	.470
Self-concept	287.92		143.96	3.60	.01	.028
Ethnic Identity x Ethnicity x Gender						
Mastery	1174.73	2	587.37	6.25	.02	.002
General motivation	172.58		86.29	2.96	.01	.053
Performance	2969.31		1484.66	2.11	.01	.122
Social	365.77		178.39	2.09	.01	.125
Sense of Purpose	233.56		116.78	6.71	.02	.001
Self-reliance	162.74		81.37	4.37	.02	.013
Self-concept	187.01		93.51	2.38	.01	.098
Error						
Mastery	53671.59	571	94.00			
General motivation	16658.82		29.18			
Performance	402237.45		704.44			
Social	48760.04		85.39			
Sense of Purpose	9939.00		17.40			
Self-reliance	10642.18		18.64			
Self-concept	22847.29		40.01			

Ethnic identity

Statistically significant differences were found on four of seven school motivation variables. The obtained *F*-ratios for mastery, general motivation, performance, and social goals were significant. Further to assess significant differences between ethnic identity and the four school motivation variables, (mastery, general motivation, performance and social), means adjusted for initial differences (estimated marginal means) and associated standard errors were obtained.

Comparisons of adjusted mean scores for each of the significant scales provide support that students with high ethnic identity were more likely to have significantly higher general motivation, as well as higher mastery, performance, and social goals than students with low ethnic identity. Students with high ethnic identity also had higher scores on measures of self awareness regarding current ability and future success, (i.e. school self-concept, self-reliance, and sense of purpose).

Ethnicity

When the results of the one-way analysis of variance procedures for ethnicity were examined, statistically significant results were obtained for mastery, social, sense of purpose,

and self-reliance. The remaining scales; general motivation, performance, and self-concept did not differ between ethnic groups.

Mastery, as a variable of school motivation, differed among the three ethnic groups with Arab Americans (*M*=68.10 *SE*=1.25) having the highest scores and European Americans (*M*=64.18, *SE*=.83) having the lowest scores. African American students had an adjusted mean mastery score of 67.71 (*SE*=.55). On social goals, Arab Americans differed from both African American and European American students. Arab Americans (*M*=53.33, *SE*=1.19) had the highest mean score for social goals compared to African American (*M*=48.90, *SE*=.52) or European American students (*M*=50.97, *SE*=.79). Sense of purpose was significantly higher for African American students (*M*=24.44, *SE*=.24) than Arab American (*M*= 23.99, *SE*=.54) and European American (*M*= 23.14, *SE*= .36) students. Self-reliance scores were much lower for European American students (*M*=30.06, *SE*=.37) than for either African American (*M*=31.44, *SE*= .25) or Arab American (*M*=31.28 , *SE*= .56) students.

Results of pairwise comparisons provided further evidence of statistically significant differences between ethnic groups. European American students had significantly lower scores on mastery goals than either of the other two groups. African American students had significantly lower social goals than Arab American or European American students. Sense of purpose and self-reliance were significantly lower for European American students than African American students. No differences were found among the other groups on these variables.

Gender

Results of the one-way analysis of covariance procedures for gender provided evidence of statistically significant differences between the three school motivation scales, mastery F (1,571) = 3.86, p= .050, performance F (1, 571) = 9.13, p=.003 and self-concept F (1,571)= 8.28, p= .004. Adjusted means and standard errors were obtained for gender to determine the direction of the differences on the significant scales.

Adjusted means for mastery goals were significantly higher for females (*M*= 67.71, *SE*= .70) than for males (*M*= 65.61, *SE*= .79). Performance, as a measure of school motivation, differed significantly between male and female students. Male students (*M*=130.97, *SE*=2.17) had significantly higher scores on this scale of school motivation than female students (*M*=122.14, *SE*=1.93). Differences were also found between male and female students for self-concept with females having higher scores (*M*=45.02, *SE*= .46) than males (*M*= 43.02,

SE= .52). Based on these results, male and female students differed in domains of school motivation measuring a mastery and performance orientation, and school self concept. No differences were found between male and female students in domains of school motivation measuring social orientation, sense of purpose or general motivation.

Ethnic identity, ethnicity, and gender.

The three-way interactions provided evidence of statistically significant differences for mastery, general motivation, sense of purpose, and self-reliance among the students by ethnic identity, ethnicity, and gender. Simple effects analyses were used to examine outcomes for all statistically significant variables. Analyses of covariance with academic achievement and socioeconomic status as the covariates were used to assess significance. Bonferroni correction was used to control for Type I errors. Estimated marginal means for all significant interactions are provided in Appendix A.

The *F* ratio of 3.82 for mastery, was statistically significant at an alpha level of .051 with 1 and 332 degrees of freedom. Post hoc tests revealed that the adjusted mean score on mastery was significantly higher for females with high ethnic identity than for males with high ethnic identity. The strength of the relationship between gender and mastery was weak, as assessed by a partial η^2 =.01. No significant differences were found on comparisons of male and female students with high ethnic identity for the remaining three variables; general motivation, sense of purpose, and self-reliance.

Students with low ethnic identity were also compared by gender on the same four variables. A significance but weak relationship (η^2 = .02) was found for mastery, *F* (1,325) = 6.53, p =.011. Female students with low ethnic identity had a larger adjusted mean for mastery than male students with low ethnic identity. No significance was found for the remaining variables.

Further analyses of the same three-way interaction compared school motivation by ethnicity. The obtained *F* ratio of 3.60 for mastery among the three ethnic groups was statistically significant at an alpha level of .028 with 2 and 300 degrees of freedom. Arab American students with high ethnic identity had higher adjusted mean scores on mastery than either of the other two ethnic groups. The strength of the relationship between ethnicity and mastery was weak as indicated by an η^2 of .02. Pairwise comparisons revealed a significant difference between European American and Arab American students ($\underline{M}$ = -.377, *p*= .036). No significant differences were found between the other ethnic groups for mastery.

A comparison of sense of purpose and ethnicity as also yielded a significant *F* ratio of

($F(2.300)$=3.55, p=.030). The strength of the relationship was weak as assessed by η^2 of .02. Pairwise comparisons revealed a significant difference between European American and African American students. No significant differences were found between the remaining groups or variables.

Additional analyses comparing school motivation variables by ethnicity were conducted for students with low ethnic identity. The ANCOVA for mastery was significant $F(2,276) = 3.39$, $p = .035$, however, the strength of the relationship was weak ($\eta^2 = .02$). Pairwise comparisons revealed significant differences between European American students and both of the other ethnic groups. A mean difference of -4.68 ($p < .001$) was found between the European American and African American students. The European American students scored significantly lower than Arab American students with a pairwise comparisons -5.03 ($p = .001$). The comparisons for general motivation, sense of purpose, and self-reliance were not statistically significant among ethnic groups for students with low ethnic identity.

The male students' scores, for mastery, general motivation, sense of purpose, and self-reliance, were compared using one-way ANCOVAs. The independent variable in these analyses was the ethnic identity of the students (high and low). The $F(1,290)$ ratio of 12.49 ($p < .001$) for mastery comparing male students with high and low ethnic identity was statistically significant indicating that male students with high ethnic identity scored higher for mastery than male students with low ethnic identity. General motivation F ratio was statistically significant, $F(1,290)$=7.83, p= .005. Examination of the estimated marginal means revealed that male students with high ethnic identity had higher scores for general motivation than male students with low ethnic identity. Sense of purpose for male students with high and low ethnic identity was compared, resulting in a statistically significant F ratio ($F(1,290)$=6.49, p= .011). Based on estimated marginal means male students with high ethnic identity had higher sense of purpose scores than male students with low ethnic identity. The ANCOVA for self-reliance was significant, $F(1,290) = 6.84$, $p = .009$. Male students with high ethnic identity had a higher adjusted mean for self-reliance than male students with low ethnic identity.

One-way ANCOVA procedures used to compare male students' scores on mastery, general motivation and self-reliance among the three ethnic groups were significant. General motivation did not differ significantly for male students among the three ethnic groups.

The ANCOVA for mastery $F(2,275) = 4.18$, p= .016 was significant with adjusted mean scores for African American male students being the highest among the three groups. Pairwise comparisons provided evidence of a significant mean difference of - 4.25 ($p = .013$) between

European American male students and African American male students for mastery orientation.

The *F* ratio comparing sense of purpose for male students from the three ethnic groups was statistically significant (*F(2.275)*= 5.24, *p*=.006). Examination of pairwise comparisons, revealed a significant mean difference (*M*= 1.89, *p* =.005) between African American and European American male students. No significant differences were found for the adjusted means among the other groups.

The ANCOVA for self-reliance was statistically significant *F* (2,275) = 4.07, *p*=.018 with African American males exhibiting the highest adjusted mean among the three groups. Evaluations of pairwise comparisons between the three ethnic groups revealed a significant difference of 1.84 (*p* = .014) between African American and European American male students.

Additional analyses to compare school motivation by ethnic identity of female students were conducted. Comparison of female students with high and low ethnic identity produced significant *results* for mastery, *F* (1,367) =16.37 (*p* <.001); general motivation, *F(1,367)*=8.27, *p*=.004; sense of purpose, *F(1,367)*= 4.84, *p*= .028 and self-reliance, *F* (1,367) = 11.04, *p* =.001. Female students with high ethnic identity had a significantly higher adjusted means for mastery, general motivation, sense of purpose and self-reliance than female students with low ethnic identity.

Comparisons of school motivation variables by ethnicity of the female students were conducted. Mastery, *F(2,336)*=8.87, *p*<.001 was statistically significant with Arab American female students having the highest adjusted mean score. African American and European American female students had a slightly smaller adjusted means for mastery. Significant mean differences between European American female students and both African American and Arab American female students were obtained (-4.95, *p*=.001 and -5.94, *p* =.001, respectively). No other significant differences between groups were found between ethnic groups.

General motivation was significant *F* (2, 336) = 5.58, *p*=.004 with Arab American female students having the highest adjusted mean. A significant difference of 3.07 (*p* =.004) was revealed for Arab American and European American female students on general motivation with European American females having the lowest adjusted mean score. No other significant differences were found between the other ethnic groups. The *F* ratio obtained for the comparison of scores for sense of purpose by the ethnicity of the female students was not statistically significant indicating that no differences exist between females of different ethnic

groups on this variable.

The comparison of self-reliance between African American, Arab American, and European American female students produced a significant *F* ratio, *F (2,336)*= 6.32, *p*= .002. Arab American female students having higher adjusted mean scores than African and European American female students. Pairwise comparisons revealed significant mean difference of 1.69 (p = .002) between African American female students and European American female students on self-reliance.

African American students' scores for mastery, general motivation, sense of purpose and self-reliance were compared by high and low ethnic identity. Significant *F* ratios were obtained for mastery *F(1,339)*= 7.39, *p*= .007, general motivation *F* (1,339) = 10.05, p =.002, sense of purpose, *F (1,339)*=4.07, *p*=.045 and self-reliance *F* (1,339) = 4.12, p = .043.

Examination of adjusted means revealed that African American students with high ethnic identity had a higher adjusted means on mastery, general motivation, sense of purpose and self-reliance than African American students with low ethnic identity.

Results of one-way ANCOVAs provided no evidence of statistically significant differences for mastery, general motivation, sense of purpose, and self-reliance between the Arab American students with high and low ethnic identity. The lack of significant findings suggests that, ethnic identity is not contributing to differences in school motivation among Arab American students.

Scores for mastery, general motivation, sense of purpose, and self-reliance were compared between European American students with high and low ethnic identity using a one-way ANCOVA. The comparison of scores for mastery, general motivation, sense of purpose, and self-reliance among European American students, with high and low ethnic identity, were not statistically significant. These outcomes indicate that European American students, with high and low ethnic identity, did not differ in their mastery orientations, self-reliance, sense of purpose or general motivation.

Further analyses compared African American students' scores for mastery, general motivation, sense of purpose, and self-reliance by gender. The comparison of mastery between male and female African American students produced an *F* ratio of 8.71, which was statistically significant at an alpha level of .003 with 1 and 360 degrees of freedom. This result indicated that, female African American students had significantly higher scores on mastery than male African American students. The remaining three subscales, general motivation, sense of purpose and self-reliance did not differ between male and female African American

students.

Arab American scores for mastery, general motivation, sense of purpose, and self-reliance, were compare by gender. No evidence of statistically significant differences were found between male and female Arab American students. Comparisons of European American students' scores on mastery, general motivation, sense of purpose, and self-reliance by gender also were not statistically significant. From these findings, it appears that both Arab American and European American male and female students had similar responses on these measures of school motivation.

The third hypothesis was examined using the three scales of the PSQR, (in-group common fate, devaluing/valuing, and prejudice), and the Rosenberg Self-Esteem Scale as dependent variables in a 2 x 3 x 2 factorial multivariate analysis of variance (MANOVA). The independent variables in this analysis were high and low ethnic identity, ethnicity (i.e., African American, Arab American, and European American), and gender.

Results of the MANOVA provided evidence of statistically significant differences for ethnicity and gender. A Hotelling's trace of .10 was obtained for the comparison by ethnicity. The associated *F* ratio of 7.13 was statistically significant at an alpha level of <.001 with 8 and 1102 degrees of freedom. The strength of the relationship as measured by $\eta^2 = .05$ was relatively weak. Gender, as a main effect, produced a Hotelling's trace of .04 and a statistically significant *F* ratio, *F(4,552)*= 6.03, p<.001, however, the strength of the relationship as assessed by $\eta^2 = .04$ was weak. No statistically significant differences were noted for the comparison of variables measuring self-protective attributions and self-esteem between students with high and low ethnic identity. Two way interactions, ethnic identity x ethnicity, ethnic identity x gender, and ethnicity x gender, did not provide evidence of statistically significant differences for in-group common fate, devaluing/valuing, prejudice or self-esteem. Additionally, the three-way interactions between ethnic identity, ethnicity, and gender were not statistically significant.

One-way analysis of variance procedures using ethnicity as the independent variable provided statistically significant results for in-group common fate F (2, 555) = 6.21, p=.002; devaluing/valuing F (2, 555) = 5.21, p=.006; prejudice F (2, 555) = 18.14, p<.001, and self-esteem F (2, 555) = 3.79, p=.023. One statistically significant result was obtained for the comparison of prejudice as a measure of self-protective attributions by gender F (2, 555) = 9.64, p=.002. The remaining one-way analysis of variance for the three main effects was not statistically significant.

Adjusted means where assessed for each subscale measuring self-protective attributions and self-esteem by ethnic group. Scheffé a posteriori tests used to compare all possible pairwise comparisons on the statistically significant results indicated that Arab American ($\underline{M}$ =14.11, SE=.43) had a significantly higher adjusted mean for in-group common fate than African American students ($\underline{M}$ =12.46, SE=.19) or European American students ($\underline{M}$ =12.69, SE=.29). A mean difference of 1.69 (p = .001) was obtained for the adjusted means among Arab American and African American students. The Arab American and European American mean difference of 1.61, (p= .005) was also significant. No differences were found in the adjusted means between African American and European American students for ingroup common fate.

The devaluing/valuing adjusted mean for Arab American students ($\underline{M}$ =12.86, SE=.41) was significantly higher than either African American ($\underline{M}$ =11.59, SE=.18) or European American ($\underline{M}$ =11.32, SE=.28) adjusted means. Scheffé a posteriori tests, comparing all possible pairwise comparisons for scores on devaluing/valuing resulted in significant mean differences between Arab American and African American of 1.95 (p=.038). A significant mean difference of 1.33 (p =.005) was reveal for Arab American and European American student scores on devaluing/valuing. No significant differences were found in the adjusted means between African American and European American students on this scale.

On the scale measuring prejudice, the European American students had the smallest adjusted mean ($\underline{M}$ =9.64, SE=.31) as compared to African American ($\underline{M}$ =11.52, SE=.20) and Arab American students ($\underline{M}$ =12.53, SE=.45). Scheffé a posteriori tests, using all possible pairwise comparisons revealed a significant difference of - 2.02 (p <.001) between European American and African American students' scores on prejudice. European American and Arab American students also had a significant difference in adjusted mean scores of - 2.86 (p <.001). Significant differences were not found between African American and Arab American students.

Pairwise comparisons for self-esteem revealed one statistically significant difference of 2.03, (p = .012) between African American students ($\underline{M}$ =32.19, SE=.29) and Arab American students ($\underline{M}$ =30.26, SE=.64). European American students ($\underline{M}$ =31.69, SE=.44) did not differ from either the African American students or the Arab American students.

Comparisons of male and female students on prejudice revealed that female students ($\underline{M}$=10.62, SE=.27) had significantly lower scores than male students ($\underline{M}$=11.84, SE=.28). The remaining comparisons provided no evidence of significant gender differences on self-

protective attributions and self-esteem.

Discussion of the Findings

The first goal of this study was to determine if academic achievement could be predicted from attributional style, achievement motivation, ethnicity, and strength of ethnic identification. Three variables were statistically significant in predicting high academic achievement; school self-concept, sense of purpose, global positive attributes and having a European American background.

In the current study school self-concept was the strongest predictor of academic achievement, accounting for 18% of the variance. A direct and significant relationship between higher levels of school self-concept and high academic achievement is consistent with an expansive amount of research as noted in Muijs' (1997) review of research on predictors of academic achievement. In a longitudinal study, school self-concept was a strong and consistent predictor of academic achievement (Muijs, 1997). Muijs also found that academic achievement is self perpetuating and predictive of self-concept. In another study, modest changes in self-concept were found in relation to academic achievement even when school and home environments changed (Cairns, McWhirter, Duffy, & Barry, 1990). The authors suggested that self-concept becomes a much more stable construct during adolescence lending support to its predictive power for this age group. A direct and positive relationship between self-concept and academic achievement was not supported by previous research using culturally diverse, or at risk populations (Hillman, Wood, & Sawilowsky, 1996, 1994, 1995, 1996; Kernis & Granneman, 1990).

Sense of purpose was a weaker, yet significant, predictor of academic achievement in the present study. The direct relationship between sense of purpose and academic performance suggests that students with higher achievement are more motivated than students with average to low academic achievement both by current performance, and how current performance affects future choices. In a study assessing the relationship between attitudes and aspirations, Abu-Hilal (2000) found that the level of aspirations or goals of a student had a direct and significant effect on academic performance, supporting the relationship between sense of purpose and academic achievement. A direct and positive relationship between sense of purpose and academic achievement is also supported by historical literature and research regarding goal attainment and success (Bandura & Schunk, 1981, Garland, 1984, Locke, 1968). The relationship between sense of purpose and academic achievement is also consistent with Muijs's (1997) findings regarding the reciprocal relationship

between academic achievement and self-concept with respect to goal theory. As proximal goals are met, the individual's confidence in and concept of his ability is strengthened. Besides strengthening self-concept, the distal goal of future success is perceived as more likely when proximal goals are met, which in turn motivates the student to continue to achieve (Abu-Hilal, 2000; Muijs, 1997; Bandura & Schunk, 1981).

High global positive attributions are a weak yet significant predictor of high academic achievement for the students in this study. Use of global attributions for positive outcomes suggests that the participants in this study consider the cause of the outcome to be influential across all situations. Considering the high correlations between global positive, internal, and stable attributions, it appears that the students in this study were confident that they could influence a positive outcome based on internal and stable personal characteristics. Previous research has shown inconsistent results regarding positive attributions and academic achievement. The strength of the relationship between attributional style and academic achievement is weak (Arntz, Gerlsma, & Albersnagel, 1985). Although, internal, stable and global attributions for positive events have been shown to have a direct relationship with academic success, higher correlations have been found between attributions for negative events and poor academic success (Belgrave, Carey, & Johnson, 1985; Hillman et al., 1994; Kamen & Seligman, 1985; Kernis & Granneman, 1990; Nolen-Hoeksema, Girgus, & Seligman, 1986; Webb, 1984; Weiner, 1985). In addition, a negative attributional style has been associated with decreased task involvement and lower achievement.

Being African American was statistically significant in predicting lower self-reported academic achievement. The finding that being African American is predictive of lower academic achievement has been reported in numerous previous studies (Arroyo & Zigler, 1995; Fordham & Ogbu, 1986; Lay & Wakstein, 1985). In an examination of differences in minority status Little-Gray and Carels (1997) found the relationship of poor academic performance and being African American to be strongly related to cultural differences and minority status within the school. Differences in academic performance in African American students based on school attended and minority or majority status within the school were not supported in this study.

The remaining variables; five attribution variables (two positive and three negative attributions), self-protective attributions, and five motivational factors (mastery, performance, social, general motivation, and self-reliance) were not significant predictors of self-reported academic achievement in this study. These findings are consistent with literature and research,

implying that several factors contribute in a multi-determined way to academic performance (Albaili, 1998; Bemphechat, Graham & Jimenez, 1999; Maehr & Braskamp, 1986; McInerney, 1995; Urdan & Maehr, 1995; Wentzel, 1989, 1993).

To investigate factors that may be contributing to differences in academic achievement, this study used the ISMR to assess achievement motivation and goals. The ISMR is based on Maehr's personal investment model which places emphasis on the complex interaction between multiple influences and multiple determinants that result in achievement motivation (Maehr & Braskamp, 1986; McInerney, 1995; McInerney et al., 1998, McInerney & Sinclair, 1992; Urdan & Maehr, 1995). Differences in school motivation based on gender, level of ethnic identity, and ethnicity were examined. Covariate adjustments were made to decrease sample effects related to demographic differences between school populations. Statistically significant differences were found for the three main effects, ethnic identity, ethnicity, and gender. Additionally, the three-way interaction among ethnic identity, ethnicity, and gender was statistically significant.

Differences between students in this study were anticipated based on literature and research, suggesting that differences in motivation and achievement goals exist between different ethnic groups based on cultural norms and adopted values (Fordham & Ogbu, 1986; McInerney, 1995; McInerney et al., 1998; McInerney & Sinclair, 1992; Steele, 1997). In the present study, high school students with low and high ethnic identity were found to have statistically different scores on four of the seven subscales measuring achievement motivation. In summary, hypothesized differences in ethnic identity postulating a negative relationship between high ethnic identity and academic motivation as posited in the literature (Steele, 1997) were not supported by this study. African American students with high ethnic identity reported higher intrinsic (mastery) motivations, a higher sense of purpose, and increased self-reliance on school related tasks. Additionally, African American students demonstrated a greater motivation to accomplish and to be successful at school related tasks, particularly when they were at school, than the other ethnic groups participating in this study. An increase in motivation at school may have been due to a shift in identification to the social milieu of the school setting, allowing for support and encouragement that the adolescents may not receive at home (Ogbu, 1978; Steele, 1997). The classroom and school setting become a society or group that the student is a part of and identifies with, allowing them to focus on school performance and goal setting (Wentzel, 1989, Wentzel & Caldwell, 1997). Results of the current study demonstrating higher levels of mastery, general motivation sense of purpose and

self-reliance among African American high school students with high ethnic identity are in accordance with research and literature that postulates having a strong ethnic identity is instrumental in allowing the individual to be more confident and therefore more accepting of standards and practices of the majority culture (Arroyo & Zigler, 1995; Phinney, 1990, 1992; Roberts, et al., 1999). Additionally, according to previous research a strong relationship exists between endorsement of mastery goals and general motivation and characteristics of the learning environment (Ames, 1992; Ames & Archer, 1988). African American participants in this study were from two high schools in which they were either a majority group or in relatively equal number to European American students. Majority group status within a school setting has also been shown to increase academic achievement and motivation for African American students (Little-Gray & Carels, 1997). European American students had lower scores on all school motivation variables when compared to the other two ethnic groups. It is possible that European American students were less motivated due to their minority status in two of the schools used for this study. However, differences in ethnic identity were not found to contribute significantly to school motivation among Arab American students who were also a minority population within the schools surveyed.

Divergence in the use of self-protective attributions as a mechanism of ethnic identity was hypothesized for all ethnic groups. Self-protective attributions include externalizing attributes based on beliefs that failures occur due to one's racial or ethnic group membership rather than due to situational causes or personal effort. Predicated on group identification that fosters a belief that effort and self-determination play a small role in goal outcomes and as a means of self-protection, obtaining goals and striving for excellence may be devalued. An individual that believes their fate is a result of group membership, resulting from prejudice, may use causal attributes to maintain high self-esteem despite overt failure or poor performance. Research and literature has shown mixed results regarding the role of ethnic identity in the maintenance of high self-esteem as well as externalizing attributes and prejudice (Crocker & Major, 1989; Phinney, Cantu, & Kurtz, 1997). Several studies have suggested that ethnic identification can be used to increase or maintain high-self esteem by using externalizing attributes thus reducing the impact of opinions, norms, or responses from persons outside one's ethnic group (Cialdini & Richardson, 1980; Dietz-Uhler & Murrell, 1998; Hillman, Wood, & Sawilosky, 1992, 1994, 1996). Other studies imply no clear correlation between ethnic identity, prejudice, and externalizing attributes (Arcuri & Cadinu, 1997; Birenbam & Kraemer, 1995; Graham & Long, 1986; Stalikas & Gavaki, 1995). The current study hypothesized that

individuals with high ethnic identity would have more externalizing attributions as well as having an increase in group comparisons, and prejudice, resulting in a devaluing of norms or opinions of those not belonging to one's ethnic group. Higher self-esteem was expected for students with high ethnic identity as compared to students with low ethnic identity (Phinney & Chavira ,1992; Volkan, 1988).

Significant differences were found between ethnic groups and use of externalizing attributions. Arab American students in the sample were found to endorse more externalizing attributions for failure than African American or European American students. Additionally, Arab American students minimized or devalued the importance of a negative situation more frequently that African American or European American students in the sample. Arab American students attributed the cause of negative outcomes to their group membership more frequently than African American or European American students. Both Arab American and African American students had significantly higher scores endorsing the belief that prejudice played an important role in negative outcomes than European American students. The finding that Arab American students use more externalizing attributions is consistent with data reported by Birenbaum and Kraemer (1995). No previous data are available on Arab American causal beliefs regarding prejudice or in-group common fate. Although Arab American students endorsed more externalizing attributes, they had the lowest self-esteem among the three ethnic groups. Arab American self-esteem adjusted mean scores (M=30.26, SE=.64) were significantly lower than African American self-esteem scores (M=32.19, SE=.29). No significant differences were found between European American students scores for self-esteem (M=31.69, SE=.44) and either of the other two ethnic groups. Due to the high variability in self-esteem scores and small differences between ethnic groups, conclusions on the relationship between self protective attributions and self-esteem could not be clearly defined by the present study.

One difference was found between male and female students regarding their use of self-protective attributions. Male participants had significantly higher scores for prejudice as a causal attribution than female participants. Based on this result, it appears that male students in this study considered prejudice as a reason for negative outcomes or failure more frequently than female students.

Summary

In summary, there was no support for the hypothesis that attributional style, self-protective attributions, and ethnic identification could be used to predict academic

achievement. However, a small amount of the variance in academic achievement could be predicted from ethnic group membership (being African American) and two motivational factors, sense of purpose and self-concept. Being African American, having a clear sense of the relationship between current performance and future success and belief in one's ability to complete academic related tasks was predictive of lower academic achievement.

Hypothesized differences in school motivation between male and female Arab American, African American, and European American students with high and low ethnic identity showed mixed results. Overall, students with high ethnic identity were more likely to have higher achievement motivation than students with low ethnic identity. More specifically, students with high ethnic identity were found to place a higher value on individual development, task completion, and skill mastery than students with low ethnic identity. It should be noted that students with high ethnic identity reported being more motivated toward school while they were at school, suggesting that the school milieu played an important role in their achievement motivation and investment in academic success. Mastery orientation, a sense of purpose, and increased motivation to complete academic related tasks when at school were significant achievement goals for Arab American students regardless of ethnic identity status. High ethnic identity appeared to play a stronger role in achievement motivation for African American students than either of the other ethnic groups.

Beliefs in causal attributes of prejudice, in-group common fate, and devaluing the importance of a goal to explain negative outcomes were more frequently endorsed by Arab American students in this study. Although African American students employed prejudice as a causal explanation for negative outcomes, it is noteworthy that Arab American participants endorsed group membership as a causal explanation for negative outcomes more frequently than African American participants. The minority status of Arab American students within the school setting, as well as cultural and language differences, may have increased their experience of negative outcomes and rejection resulting in a fatalistic attitude with respect to goal attainment.

Results of the present study suggested that the relationships between ethnic identity, school motivation, and achievement are multidimensional and dependent on multiple interconnected culture and environmental factors. Further research is needed to determine what specific cultural and motivational factors are present for different ethnic groups to examine how these factors combine making a unique contribution to academic success or failure of the individual.

Limitations of the Study

A major limitation of this study was the discrepancy in sample sizes, specifically in terms of ethnic groups. Both European American and Arab American students were under represented relative to the number of African American students included in the study. In addition, the Arab American students were not representative of all Middle East countries. Most of the Arab American students from one of the schools were from Iraq, while the majority of the remaining Arab American students were from Lebanon. Small correlations and adjustments to means needed because of unequal sample sizes and population differences may have contributed to the lack of significant findings and less powerful analysis.

Implications for Future Research

Replication of this study using a larger and more diverse group of students from Middle East countries would allow further assessment of cultural differences and provide additional information on the differences between and among ethnic groups and motivation and achievement orientations. In addition, an investigation of the criteria students use in self-assessments of motivation and achievement based on their academic, social, and occupational goals could then be correlated with ethnic group, ethnicity, and standard achievement motivation measures. Based on the results of this study a determination of the types of goals students set as proximal goals and indicators of academic success throughout the school year may help educators and psychologists understand the multidimensional structure of achievement in an adolescent population. A longitudinal study of changes in attributions, goals and environmental as well as peer relationship changes during the course of an academic year may increase our understanding of the relationship between scholastic and non academic goals.

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Appendix A

Significant Estimated Marginal Means for Three-way Interactions

Interaction	Adjusted Mean	SE
High ethnic identity x gender		
Mastery		
Male students	67.63	.80
Female students	69.67	.67
Low ethnic identity x gender		
Mastery		
Male students	62.68	.85
Female students	65.70	.80
High ethnic identity x ethnicity		
Mastery		
African American	69.54	.64
Arab American	70.23	1.45
European American	65.77	1.33
Sense of Purpose		
African American	25.10	.27
Arab American	24.47	.67
European American	23.46	.56
Low ethnic identity x ethnicity		
Mastery		
African American	66.11	.93
Arab American	66.75	2.02
European American	62.79	.97
Male x level of ethnic identity		
Mastery		
High ethnic identity	62.61	.86
Low ethnic identity	67.05	.91
General Motivation		
High ethnic identity	30.30	.45
Low ethnic identity	28.39	.48
Sense of Purpose		
High ethnic identity	24.27	.34
Low ethnic identity	23.00	.36
Self-reliance		
High ethnic identity	31.37	.40
Low ethnic identity	29.93	.38

Table continues

Interaction	Adjusted Mean	SE
Male x ethnicity		
Mastery		
African American	66.36	.83
Arab American	65.49	1.99
European American	62.11	1.99
Sense of Purpose		
African American	24.26	.33
Arab American	23.34	.80
European American	22.38	.48
Self-reliance		
African American	31.34	.36
Arab American	30.65	.87
European American	29.51	.53
Female x level of ethnic identity		
Mastery		
High ethnic identity	69.91	.67
Low ethnic identity	65.96	.71
General Motivation		
High ethnic identity	30.47	.38
Low ethnic identity	28.88	.40
Sense of Purpose		
High ethnic identity	24.91	.29
Low ethnic identity	23.97	.31
Self-reliance		
High ethnic identity	31.85	.28
Low ethnic identity	30.46	.31
Female x ethnicity		
Mastery		
African American	69.74	.64
Arab American	70.72	1.33
European American	64.78	.90
General Motivation		
African American	30.11	.37
Arab American	31.77	.78
European American	28.70	.53
Self-reliance		
African American	31.76	.28
Arab American	31.87	.59
European American	30.07	.40

Table continues

Interaction	Adjusted Mean	SE
African American x ethnic identity		
Mastery		
High ethnic identity	69.07	.82
Low ethnic identity	66.23	.64
General Motivation		
High ethnic identity	30.33	.35
Low ethnic identity	28.50	.45
Sense of Purpose		
High ethnic identity	24.76	.29
Low ethnic identity	23.81	.37
Self-reliance		
High ethnic identity	31.77	.29
Low ethnic identity	30.81	.37
African American x gender		
Mastery		
Male	66.39	.71
Female	69.24	.71

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